ALASKA TRIBAL SPECTRUM

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www.aktribalspectrum.org/about-the-atn

ATN
ALASKA TRIBAL NETWORK

An inclusive statewide wireless network using the tribal 2.5GHz spectrum.

ATS - A Denali Commission "Hail Mary" Success Story

ATS is a Tribally-member managed nonprofit that in July 2020 had a primary mission to ensure that the FCC-offered 2.5 GHz spectrum was reserved for Tribal benefit before the FCC application window closed. In this mission, ATS was highly successful and, in just 2 months, ATS rallied with the support of many Tribal organizations to reserve spectrum over a large area of Alaska for the benefit of 85 **Tribal members**. This was possible because ATS understood the unique communication challenges for rural Alaskan Tribes and created a quick, simple way for Tribes to participate as a consortium and apply collectively instead of 85 individual efforts.

With that same approach, ATS is now inviting every Tribe in Alaska to join us in a unified NTIA grant application to bring value to their spectrum and provide affordable broadband everywhere in rural Alaska.

OUR MISSION

1 Leverage the FCC awarded Tribal 2.5GHz spectrum to obtain last mile wireless infrastructure funding to create and expand a statewide Alaska Tribal Network (ATN) that will deliver sustainable, affordable "Broadband For All" everywhere in the State of Alaska.

2 Obtain funding to significantly reduce the cost of middle mile for all rural Alaskans NOW.

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Statewide 2.5 GHz Spectrum

The white area is where ATS applied for 2.5Ghz license coverage that could be used to service anyone living there.

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Green areas are 2.5GHz available for last mile networks – Alaska Tribal Spectrum and all other applicants

Because we collectively have 2.5 GHz coverage statewide, this makes a tremendous opportunity possible.

The future of internet is mobility.

- You can't walk around with a piece of fiber in your pocket.

- Less reliance on land line phones. Move to cell phones.

- Statewide Tribal 2.5 GHz spectrum is the key to mobility. Completing FCC buildout in the villages is the key to not losing it.

Standards based vendor and provider inclusion is the key is the key to maintain Tribal choices

Need to install a network that provides mobility – not dead end at fixed broadband.

The last mile network needs to allow every provider to participate.

- This creates choice and competition. The subscribers can choose what they want.

The ATN is the key to tribal control and choices.

The ATN is the key to maximizing tribal spectrum revenue and affordability in rural Alaska.

ATS - Fulfilling our Mission to Provide Funding for our Members to Receive Affordable Broadband

Alaska Tribal Spectrum (ATS) is currently finishing a grant for submittal to the NTIA under the Tribal Broadband Connectivity Program as a large multi-member Tribal organization.

ATS has been working on this NTIA application plan for over 7 months now.

This application will leverage the 2.5 GHz spectrum that ATS and other Tribes applied for recently to enable statewide coverage.
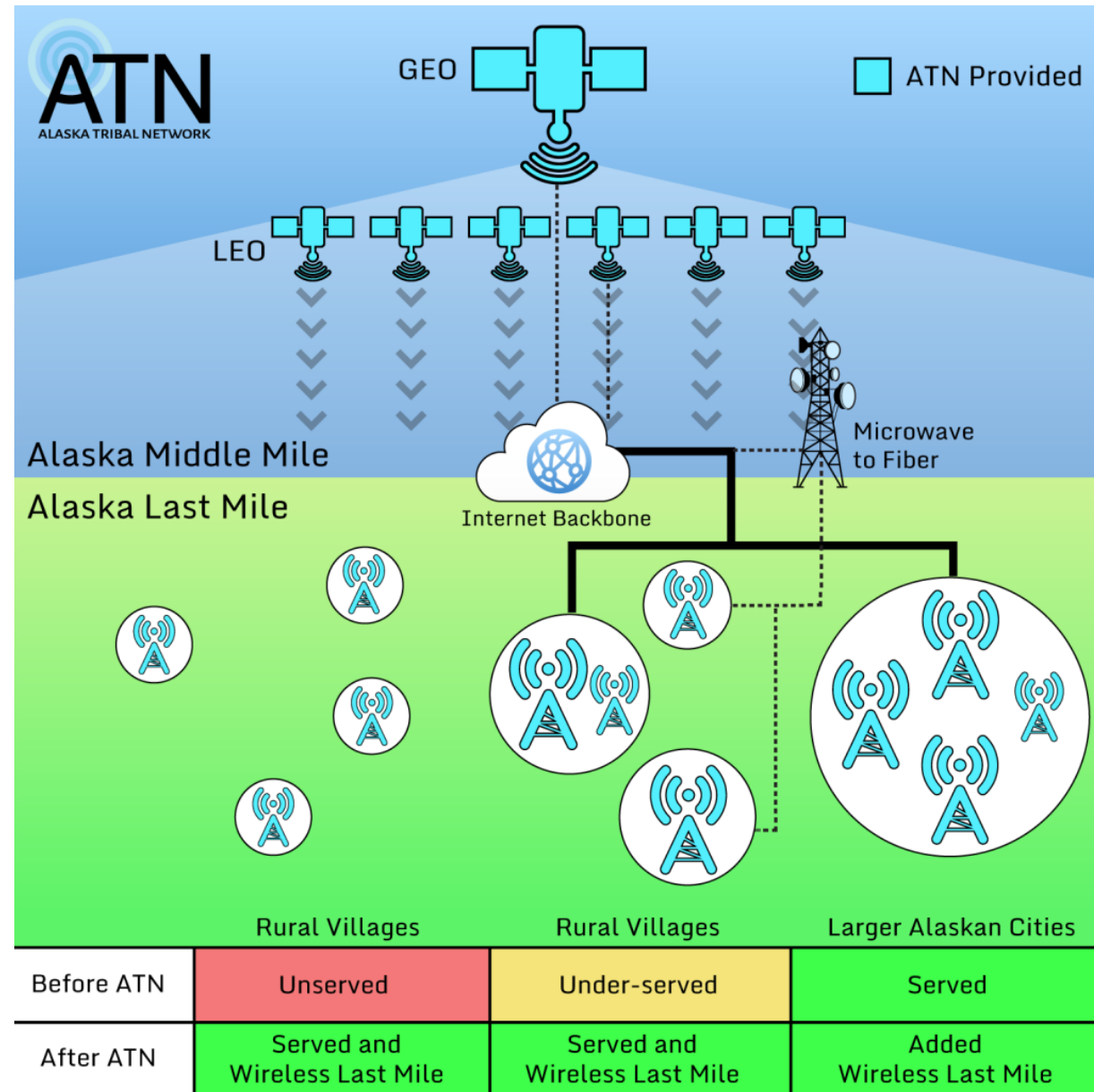
The application Part A will ask for funding for last mile wireless network equipment that will include installation in each member ATS community as part of a statewide Alaska Tribal Network (ATN).

The application Part B will also request significant funding as one large Tribal statewide subsidy to purchase advanced LEO and GEO satellite capability to connect these rural last mile networks to the internet to deliver minimum 25/3 affordable broadband.

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Learn more at
https://aktribalspectrum.org/about-the-atn

	Rural Villages	Rural Villages	Larger Alaskan Cities
Before ATN	Unserved	Under-served	Served
After ATN	Served and Wireless Last Mile	Served and Wireless Last Mile	Added Wireless Last Mile

1. Main ATN Tower – sized as appropriate in each village – i.e 40, 75, or 100 feet. Free standing monopoles, with radome enclosed sectors for harsh Alaska weather, ballasted foundations, requiring no concrete, or micropiling for northern Alaska.
2. Base Unit – It's a shipping container – Contains all ATN network equipment – computers, switches CCN - lasts forever with a little paint – environmentally controlled – walk in access – easily installed with no special requirements.
3. Satellite receiver dish – receives LEO or GEO
4. Radio heads – transmit 2.5 GHz signal over village
5. Generator related equipment (if required)
6. Repeater tower – If needed for larger villages. Retransmits signal over larger distance.
7. Middle Mile - Advanced GEO or LEO satellite supplied to main tower dish. Grant subsidies make service affordable. Note: If fiber or other middle mile is or becomes available it can easily connect to the switch in the base unit and be used. In rural Alaska – satellite may be only choice.
8. LTE modem/Router – Receives signal from tower radios and retransmits throughout house – no dishes on houses - typically no equipment on outside of house. ORAN compliant. Self configures to network.
9. ATN is mobility ready for future 2.5 GHz phone service. Some phones can have broadband immediately.

ATS has been working closely on the ATN concept development with OptimERA who has a foundational example already working in Unalaska serving a community of 10,000. Using this advanced knowledge, ATS and OptimERA have envisioned a Statewide Alaska Tribal Network(ATN) design. This is based on an actual Alaska standards-based network and is an ideal model for a statewide vision for all of us.

The ATN is a standards-based solution built on 3GPP and open RAN standards to allow for future upgrades and deployment. It can grow and evolve as the needs of the community changes. It is a standards-based framework with different roles. It is not owned collectively by anyone. It is managed by the members of ATS through a Policy Board.

Not just broadband to buildings - also to phones. Cell phone service over 2.5 GHz Tribal Spectrum, E911.

Ability to extend easily in the future – shipboard connections, fish camps, search and rescue.

- Every telecommunications provider is invited to be on the network

- Designs and architecture is open to all providers

- Telecommunications provider operational costs dramatically reduced

- ATN is connection agnostic -Will support any backhaul

- ATN provides choices and encourages competition.

- We are focusing only on reducing the cost of consumer or residential and small business internet access – not schools etc.

Your Tribal Network – Who Does What

📡 **Tribe** – by default the tribe is paid for spectrum use based on the data that flows across it. The tribe can opt in to be equipment owner and maintainer, or not. The tribe can opt in to be a provider of service or not. The tribe can choose to just receive affordable broadband everywhere in their village. ATS will provide ATN approved equipment and installation, or the tribe can choose their installation vendor.

📡 **ATS** – ATS is governed by its Tribal members. The ATS Policy Board manages the network policies of the ATN. ATS will manage long term middle mile contracts including IRUs with satellite providers. ATS holds all service providers to a quality-of-service standard. ATS ensures that all parties on the ATN receive their share of revenue. ATS will continue to apply for additional grants for its members benefits.

📡 **Optimera** – They are the ATN Network manager. They provide the core software that manages the network.

Last Mile ATN Installers – ATS can provide and manage or use local providers that can be certified for proper installation.

Middle Mile Providers – They provide backhaul services for ATS. In areas where fiber is unavailable this will be provided by satellite. ATS manages and ensures a Quality of Service is maintained.

ACS – ATS plans to use ACS for the Network Operations Center (NOC) provider for the ATN

Other Service Providers – There can be multiple. Everyone is invited to offer service as they choose i.e ACS, GCI, local telcos, Tribally owned providers. Each provider purchases wholesale service from ATS.

Equipment Providers – The ATN is standards based and communities can choose from many ATN compatible equipment providers.

Affordability brings Opportunity over the ATN

- **University of Alaska Curriculum**

- **Technical and cultural learning opportunities**

- **Certification and degree programs**

- **Remote telework employment**

- **Communicate freely with friends and family**

- **Entertainment – stream movies and other content**

- **Telemedicine, public safety (e911), remote monitoring**

A Rising Tide Lifts All Boats

- **The ATN makes the business case for future fiber connections**

- **Excess capacity will be shared**

- **Affordable satellite is only viable choice for rural Alaska now.**

- **A large tribal voice can ask for relief and increase everyone's chances of success.**

- **Lower operational costs for telecommunications providers**

For more information:

Go to:

www.aktribalspectrum.org/about-the-atn

www.aktribalspectrum.org/support-ntia

Or email us at members@aktribalspectrum.org